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EXAMINER

ROJAS, BERNARD

ART UNIT PAPER NUMBER

2832

DATE MAILED: 01/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/964,086

Applicant(s)

RICHESON, WILLIAM E.

Examiner

Bernard Rojas

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 and 34-41 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-22 is/are allowed.
- 6) ☒ Claim(s) 1-8 and 34-41 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4-8 and 34-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Soileau et al. [US 4,601,765] in view of Groove [US 3,753,182].

Claim 1, Soileau et al. discloses an electromagnet with a polymer impregnated powder metal core [4, 5] containing a coil [2] with a plastic bobbin [3] attached to the core.

Soileau et al. fails to disclose the method in which the bobbin is created and the elasticity of powder metal.

It would have been an obvious matter of design choice to use a powder metal having a specific Young's modulus, since applicant has not disclosed that a certain elasticity solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with powder metal disclosed by Soileau et al.

Grove teaches an electromagnet for use in a brake with an injection molded polymer bobbin.

It would have been obvious to one of ordinary skill in the art at the time the invention was made use an injection molded bobbin with a material other than

polyurethane and a natural or synthetic rubber in order to achieve a particular elasticity for the bobbin and to add a layer of adhesive to secure the bobbin to the core.

Claim 2, it would have been an obvious matter of design choice to use a donor material of polyphenylene sulfide, since applicant has not disclosed that this particular material solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the polyurethane and a natural or synthetic rubber of Grove.

Claims 4 and 5, it would have been obvious to one having ordinary skill in the art at the time the invention was made to change the composition of the powder metal to a specific Young's modulus, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Claim 6, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use low carbon iron in the annealed core of Soileau et al. in order to create a stronger iron core since iron is stronger when there is less carbon.

Claim 7, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use Hoerganaes Anchor steel 1000 series since it was known as a low carbon steel.

Claim 8, it would have been an obvious matter of design choice to create a sintered powder metal core, since applicant has not disclosed that a sintered powder metal core solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with an annealed powder metal core.

Claims 32 and 33, Soileau et al. discloses an electromagnet with a polymer impregnated powder metal core [4, 5] containing a coil [2] with a plastic bobbin [3] attached to the core.

Soileau et al. fails to a polymer bobbin.

Grove teaches and electromagnet for use in a brake with a polymer bobbin.

It would have been obvious to one of ordinary skill in the art at the time the invention was made use an injection moldered bobbin with a material other than polyurethane and a natural or synthetic rubber in order to adjust the frictional properties of the bobbin.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to adjust the thickness of the rim of the housing, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Claim 34, it would have been an obvious matter of design choice to use a polymeric material of polyethylenesultide, epoxy, and phenolic, since applicant has not disclosed that this material solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with polyurethane and a natural or synthetic rubber.

Claim 35, Grove shows the bobbin can be made of glass fibers [col. 3 lines 50-55].

Claim 36, Soileau et al. discloses an electromagnet with a polymer impregnated powder metal core [4, 5] containing a coil [2] with a moldable material [3] covering at least a portion of the core, the electromagnet having a magnetic cross section that is constant to within plus or minus three percent [figure 1].

Claim 37, it would have been an obvious matter of design choice to use a donor material with an elasticity greater than about 2 million psi, since applicant has not disclosed that this specific donor material solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the plastic disclosed.

Claim 38, it would have been obvious to one having ordinary skill in the art at the time the invention was made to change the composition of the powder metal to a specific Young's modulus, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Claim 39, it would have been an obvious matter of design choice to use polyphenylene sulfide as a donor material, since applicant has not disclosed that this specific donor material solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the plastic donor material disclosed.

Claims 40 and 41, Soileau et al. discloses an electromagnet with a polymer impregnated powder metal core [4, 5] containing a coil [2] with a moldable material [3] covering at least a portion of the core. It would have been obvious to one having

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ordinary skill in the art at the time the invention was made to select a powder core strength within a certain range to maximize the strength of the core, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Claim 42, it would have been an obvious matter of design choice to use a donor material with an elasticity greater than about 2 million psi, since applicant has not disclosed that this specific donor material solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the plastic disclosed.

Claim 43, it would have been obvious to one having ordinary skill in the art at the time the invention was made to change the composition of the powder metal to a specific Young's modulus, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Allowable Subject Matter

Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 9-22 are allowable.

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record does not teach nor suggest, in the claimed combination,

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an electromagnet wherein the injection molding material is comprised of 18 to 35% polyphenylene sulfide, 5 to 30 % Kyanite, 4 to 18 % graphite, 9 to 45% Barite, and 8 to 30% glass fibers, by total weight of the donor material.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Rojas whose telephone number is (703) 305-3873. The examiner can normally be reached on M-F (7-4:30), every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin G. Enad can be reached on (703) 308-7619. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Br


LINCOLN DONOVAN
PRIMARY EXAMINER
GROUP 1-2